

Bureau of Radiological Health

X-Ray Equipment Operator

in Bone Densitometry

Training Manual for Students

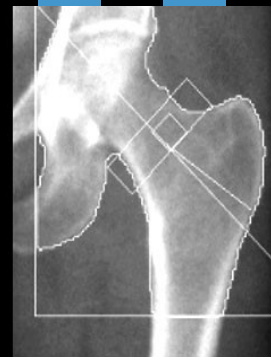
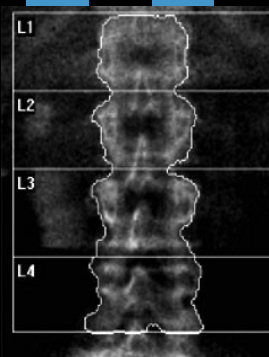
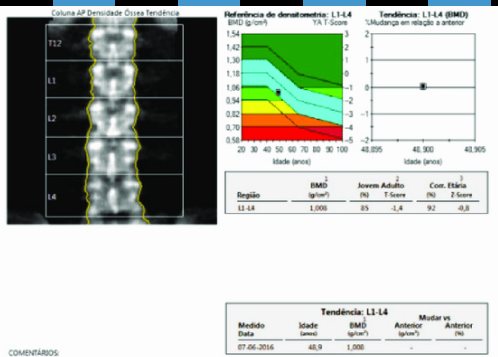
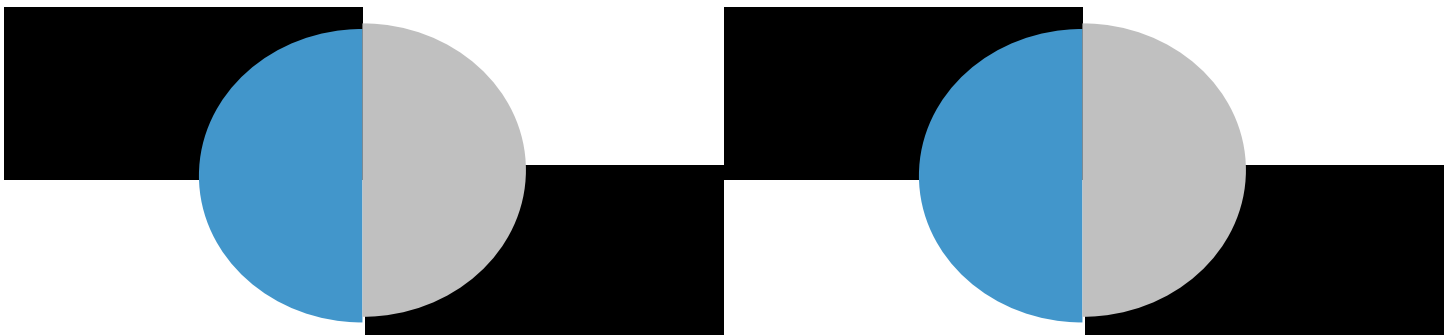


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PURPOSE: The Iowa Department of Public Health (IDPH) has established the minimum training standards for limited radiologic technologists. This guide should aid in making application for a training program that will meet IDPH standards. It will also assist in developing the curriculum and classroom and clinical training. This guide does not apply to x-ray equipment operators in podiatry or bone densitometry. The appendices to this guide serve to provide additional information on specific subject areas. Model procedures that the applicant may adopt are provided. The applicant may use the model procedures as an outline to develop alternative procedures for review by the IDPH staff. After review of this guide, if you have specific questions, you may contact:

**The Iowa Department of Public Health
Bureau of Radiological Health**
Lucas State Office Building, 5th Floor
321 East 12th Street
Des Moines, Iowa 50319-0075
Or, you may call 515-725-1077

APPLICABLE REGULATIONS

In addition to 641-chapter 42(136C), other regulations pertaining to the technologist are found in Chapters 38, 40, and 41 of the IDPH Radiation Machines and Radioactive Materials Rules. You can find the electronic version by going to <http://idph.iowa.gov/radiological-health>

DEFINITIONS

“Bone Densitometry equipment operator” performs bone densitometry using only dual energy X-ray absorptiometry equipment. Studies using CT, fluoroscopy, or non-dedicated equipment are prohibited.

“Bone Densitometry” means the art and science of applying ionizing radiation to the human body using a dual energy x-ray absorptiometry unit for the sole purpose of measuring bone density.

“ARRT” means the American Registry of Radiologic Technologists.

Excerpted from Chapter 42 Rules.

641—42.33(136C) Standards for formal education for X-ray equipment operators in bone densitometry.

42.33(1) The following are the minimum standards:

a. A principal instructor shall have at least two years of current experience in radiography and bone densitometry and shall:

- (1) Be an Iowa-permitted general radiologic technologist; or
- (2) Hold a current ARRT registration if the clinical site is located outside of Iowa.

b. A clinical instructor shall have at least two years of current experience in radiography and bone densitometry and shall:

- (1) Be an Iowa-permitted limited radiologic technologist; or
- (2) Be an Iowa-permitted X-ray equipment operator in bone densitometry; or
- (3) Be an Iowa-permitted general radiologic technologist; or
- (4) Hold a current ARRT registration if the clinical site is located outside of Iowa.

c. Clinical instructors shall be supervised by the principal instructor.

d. A principal instructor shall also act as clinical instructor, if applicable.

e. The following are classroom and clinical standards:

(1) A minimum of 8.0 hours of classroom instruction to include radiation safety, equipment operation, quality control, patient care, and anatomy.

(2) Clinical instruction to include positioning and a minimum of 10 projections excluding the competency projections.

(3) Clinical competency projections shall include 5 projections.

(4) All competency testing shall be directly supervised by the principal or clinical instructor. IAC 8/2/17 Public Health[641] Ch 42, p.15

(5) Clinical instructors shall directly supervise all students before the student's competency for the specific projection is documented and indirectly supervise after the student's competency for the specific projection is documented.

42.33(2) Department approval is required before implementing any formal education or making any changes to a formal education offering.

42.33(3) Administrative items for all formal education:

a. The department reserves the right to audit or evaluate any aspect of the formal education or student progress.

b. The department may at any time require further documentation.

ONCE THE TRAINING IS COMPLETED

Upon the completion of the training program, the following must be submitted to the agency:

1. A statement of competency from the principal or clinical instructor.
2. Completion certificate for the training program.
3. A completed Testing Proctor Form

Students DO NOT need to wait until the competencies are complete to take the exam. They won't receive their permit however until ALL competencies are completed.

Records of training MUST be retained for three years.

FINAL TESTING OF STUDENT

Final testing will be conducted with a Bureau approved Testing Proctor (See Test Proctor Guide)

REQUIRED FORMS

- 1. Initial Clinical Site Form**—This form must be filled out by any clinical site/clinical instructor where the student may be completing Clinical Practices and/or Clinical Competencies. The completed form(s) is returned to the Principle Instructor who then forward them on to the IDPH. **These forms must be reviewed and approved by the IDPH before students can begin their Clinical Practices and/or Clinical Competencies.**
- 2. Clinical Practice Record Sheet**—This form is used to keep track of the student's practices in each of the required areas. **This form does not need to be returned to the IDPH but needs to be kept by the students for at least 3 years.** The example in this manual is only an example. Feel free to develop your own.
- 3. Clinical Competency Record Sheet**—This form is used to keep track of the student's clinical competencies in each of the required areas. **This form does not need to be returned to the IDPH but needs to be kept by the students for at least 3 years.** The example in this manual is only an example. Feel free to develop your own.
- 4. Examination Evaluation from for Final Competency**—The student should have one of these forms for **EACH** Clinical Competency they complete (pass or fail). **This form does not need to be returned to the IDPH but needs to be kept by the students for at least 3 years.** The example in this manual is only an example. Feel free to develop your own.
- 5. Clinical Competency Statement**—After a student has completed ALL Clinical Practices and Clinical Competencies then the Clinical Instructure will need to complete this form. **This form does need to be returned to the IDPH.** If a student has utilized more than one Clinical Instructor (CI), then he or she will have the CI who completed the most number of exams fill out the form.
- 6. Test Proctor Form**—Along with Clinical Competency Statement and a Certificate of Completion for the training program, a Test Proctor Form will need to be completed and sent to the IDPH. This form is also considered the "Test Application".
- 7. Application for State of Iowa Limited Permit to Practice**—Once student has received the test results and has passed the Bone Densitometry examination and have completed the required clinical requirements, they may apply for their IDPH Permit to Practice. **This process can be completed online and it suggested that one do so at <http://idph.iowa.gov/regulatory-programs/permits-to-practice>.**

Forms 1, 5, & 6 are also available online at: <http://idph.iowa.gov/permits-to-operate/bone-densitometry>

FORMS



**Bureau of Radiological Health
Lucas State Office Building, 5th Floor
321 East 12th Street, Des Moines, IA 50319
BONE DENSITOMETRY INITIAL CLINICAL SITE FORM**

Trainee: _____ (print name)

A principal instructor shall have at least two years of current experience in radiography and bone densitometry and shall:

1. Be an Iowa-permitted general radiologic technologist; or
2. Hold a current ARRT registration if the clinical site is located outside of Iowa

A clinical instructor shall have at least two years of current experience in radiography and bone densitometry and shall:

1. Be an Iowa-permitted limited radiologic technologist; or
2. Be an Iowa-permitted X-ray equipment operator in bone densitometry; or
3. Be an Iowa-permitted general radiologic technologist; or
4. Hold a current ARRT registration if the clinical site is located outside of Iowa

Clinical instructors shall be supervised by the principal instructor. A principal instructor may also act as clinical instructor, if applicable. All competency testing for limited radiography shall be directly supervised by the principal or clinical instructor. Clinical instructors shall directly supervise all students before the student's competency for a specific projection is documented and indirectly supervise after the student's competency for a specific projection is documented. By signing below, you are agreeing that you meet these minimum requirements.

Site where clinical education will take place :

Signature of Trainee

Date

Principal Instructor Name (printed)

Principal Instructor Signature

Date

Clinical Instructor Name (printed)

Clinical Instructor Signature

Date

EXAMINATION EVALUATION FORM FOR FINAL COMPETENCY

Student name _____ Type of Examination _____

Performance Objective: Given a patient and the necessary equipment, the student will demonstrate the ability to:

Examination Preparation

- | | | |
|--|------------------------------|-----------------------------|
| - cassettes, holding devices, etc. available | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - laundry stocked in the room and the bathroom | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - room and table ready for patient | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - necessary supplies available | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - equipment set properly | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - emergency equipment available for use if necessary | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Examination Performance

- | | | |
|--|------------------------------|-----------------------------|
| - patient dressed properly for exam | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - checks orders | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - explains procedure to patient | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - assists patient onto table or examination area | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - takes patient history and records it for physician | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - gives clear and concise patient instructions | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - positions equipment and patient properly | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - makes exposure properly | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - watches patient closely | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - works with speed and efficiency | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - is aware of and practices good radiation protection habits | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Exam Completion

- | | | |
|---|------------------------------|-----------------------------|
| - critiques final examination | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - checks study with Physician as necessary | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - produces diagnostic study | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - places completed exam in proper area | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - returns patient to indicated area (their room, ER, OPT, etc.) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - replaces supplies as necessary | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - maintains a clean and neat working area | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| - makes sure all information is correctly recorded | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

COMMENTS _____

The evaluator's signature verifies that the procedure was completed satisfactorily.

Signature: _____ Date: _____

**Bureau of Radiological Health
Lucas State Office Building, 5th Floor
321 East 12th Street, Des Moines, IA 50319
COMPLETION OF BONE DENSITOMETRY TRAINING AND STATEMENT OF COMPETENCY**

Trainee: _____ (print name)

As clinical instructor for the above individual, I verify that this individual has:

- a. Demonstrated good patient care.
- b. Demonstrated appropriate radiation protection for self, staff, and patient.
- c. Been supervised by me, a general radiologic technologist, or limited radiologic technologist.
- d. Has satisfactorily completed the required competencies with 100% accuracy.

I verify that the above individual is competent to perform bone densitometry according to the Bureau of Radiological Health's requirements.

Clinical Instructor Name (printed)

Clinical Instructor Signature

Date

Address

Phone Number

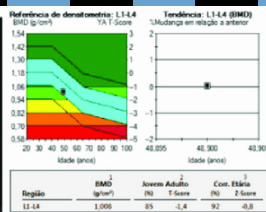
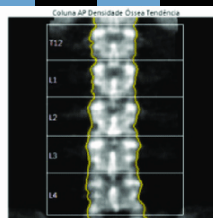
Email Address

Bureau of Radiological Health

Test Proctor Guide

-Podiatry

-Bone Densitometry



Tendência: L3-L4

Machado	Idade	BMD	Mudar vs
Data	(anos)	(g/cm³)	Anterior (m)
07.06.2016	45.9	1.008	-

COMENTÁRIOS



A proctor is someone who verifies that your test is administered under the proper conditions. A list of approved proctors may include professional testing centers, college testing centers, professors at colleges or universities, public school teachers, guidance counselors, school principals, school superintendents or librarians. **Proctors must not be related to the applicant, must not be a co-worker or supervisor, and must not be someone who has taken the test previously or who intends to take the test.**

- Please have your test proctor complete the bottom portion of the form after you complete the top portion. Upon completion, please return the form to IDPH.
- After a Test Proctor has been approved by the IDPH, the Test Proctor will be contacted and date for the exam scheduled.
- The exam will then be sent to the Proctor for administering to the student.
- After exam is completed the Test Proctor will return it to the IDPH for grading.
- Results will be sent to the Student within 2—3 weeks.
- ***Three failed attempts on the examination will require the individual to repeat the formal education or complete a department-approved review program.***
- If a student is unable to make the scheduled test date, it is their responsibility to contact the Test Proctor to cancel the appointment of the testing and the Test Proctor will contact the IDPH to set up possible make-up date(s).
- The IDPH will contact to student to rescheduled the exam date and will contact the Test Proctor with the new date.
- All questions concerning the Testing Process should be directed to:

Matthew Millard, Program Planner 3

Bureau of Radiological Health

Phone (515) 725-1077

Fax (515) 281-4529

matthew.millard@idph.iowa.gov

Iowa Department of Public Health Bureau of Radiological Health Testing Proctor Form

TO BE COMPLETED BY THE APPLICANT:

Applicant's Name: _____

Phone: _____ Address: _____

City: _____ State: _____ Zip: _____

Social Security # _____

Email: _____ Test Title _____

Permit # if applicable _____

TO BE COMPLETED BY THE PROPOSED TEST PROCTOR:

I hereby agree to serve as a test proctor for the above applicant. I will provide a quiet atmosphere for them to take the exam, will monitor them during the assessment period, and will mail, fax or email the completed test to IDPH directly. **Students are not to use any form of notes or books while taking the exam. They may use a simple calculator but not their phone calculator.**

Proctor's Name: _____

Proctor's Title: _____

Phone: _____ Address: _____

City: _____ State: _____ Zip: _____

Email: _____

Testing Site: _____

When are you available for the student to take the test? _____

Proctor's Signature _____ Date: _____

Please return this form by email, fax or mail to:
matthew.millard@idph.iowa.gov
Bureau of Radiological Health
Lucas State Office Building
321 E. 12th Street Des Moines, IA 50319
Fax 515-281-4529

Any questions please contact Matthew Millard at (515) 725-1077

